| **RESEARCH ARTICLE**

Trust and Satisfaction in Digital Banking in the Philippines - Integrating Delone and Mclean Information System Success Model

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| **ABSTRACT**

Trust and satisfaction are difficult to develop with mobile payments. Several papers have revealed and explained the benefits of using online payments. Despite this, mobile payment procedures in the Philippines remain low. This is the problem that this study wishes to address. The study validated and evaluated the Delone and Mclean model and the relationship between the dimensions that make up the success of IS implementation. Processes were completed by conducting a survey, collecting and analysing data, testing the validity of hypotheses, and providing interpretation thereof. The study proves that customers' demographic variables, such as education, have a significant impact on trust. Also, education and No. of Years with the Bank is the only variable that has a significant impact on satisfaction. When the effect of the Delone and Mclean Model on trust and satisfaction is examined, it is observed that all three quality dimensions significantly impact trust and user satisfaction. This finding highlights the importance of continuous monitoring and enhancing the quality associated with these factors. This shows that the characteristics of a system from a technical perspective are especially of significant importance for enhancing the trust and satisfaction users feel towards mobile banking. When considering the effects of the three quality dimensions on trust and satisfaction, it is important to foster system, information, and service quality. In this vein, banks need to continuously monitor and initiate improvements in the associated aspect of quality. The Philippines is an Archipelago, which makes it difficult to build structures in other parts of the country. The government and the private sectors should kindly consider how to progress the digital infrastructure soon. Any substantial efforts to improve the prices or deliver improved rates of online contributions would have a great effect on affordability and, hence, access.

| **KEYWORDS**

Delone and Mclean, Digital Banking, Service Quality, System Quality, Information Quality.

1. Introduction

This section should be concise and define the background and significance of the research by considering the relevant literature, particularly the most recent publications. When preparing the introduction, please bear in mind that some readers will not be experts in your field of research.

Mobile phones and online usage in the Philippines show that there is a chance of increasing the distribution of financial facilities through digital platforms. Numerical data shows that there are a huge number of Adults who do not have a bank account but have a mobile phone. However, only a few use their mobile phones in financial transactions. Numerous writings have shown the benefits of using mobile payments. Despite this, the acceptance of mobile banking in the Philippines remains small. This is the issue that this research needs to address and hopefully could aid in classifying probable solutions to this gap.

The researcher believes that this study can help various groups of companies and people as well as the researcher in many aspects, including Banks and Financial Institutions, Online Sellers, Customers, Depositors, Information Technology Companies, and Academe.

2. Literature Review
2.1. Bank
Banks play a vital role in this age. Banks strive to introduce new and improved goods and facilities to get an advantage in the tight industry. To progress the banks' services, banks should give more thought to improving services and creating new philosophies and innovations to improve customer satisfaction. Consequently, banks need to create such major activities to keep up with their customers' expectations. The banking business is going through many changes, such as providing its customers with services over handheld mobile devices. Such facilities are not covered by topographical locations and other issues (Metlo, 2020).

2.2. Digital Banking
Are facilities provided via the use of a device installed on a non-wired network that allows customers to pay and complete any banking activity linked with an account without any manual intervention? Full access to bank transactions is available through mobile banking (Nuhu, 2022).

Mobile Banking, a portion of monetary technologies normally known as Fintech, is becoming prominent and taking its market share quickly. Fintech facilities, which array from Mobile Banking and Internet Banking, are an important worry for the monetary sector, and almost all players in the Monetary Sector, including Banks, are either obtaining fintech applications or trying to grow their own (Metlo, 2021).

2.3. Mobile Banking Application
In terms of human–to–human–mobile app relations, the type of app design is essential and impacts users' acceptance intensively. Application designing plays a valuable role in enticing, retaining, and refining customers' interest in websites. Additional revisions on Internet service have especially focused on app scheming, and all authors agree that apps should be designed to improve customers' conception of the website and its services. Furthermore, the desired app design would increase accessibility and play a significant role in its appeal. One of the ways to improve app design is for customers to be asked to evaluate it. Considering the overall recommendation, this study proposes that the website app has an important effect on customers' satisfaction (Jayachandra, 2022).

2.4. DeLone–McLean IS Model
Took the idea of the model of a message to quantify IS success based on the hypothesis that the procedure in IS is similar to the communication system. An information system is a procedure for creating and assigning information and conducting the information to the recipient. Information transmission is measured effective if it can overcome the problems of communication, which are technical, semantic, and effectiveness problems. A methodological issue arises when the communication system cannot carry information correctly and competently. Semantic issues concern whether the information that is forwarded by the system is applied by the receivers as it is intended to be. (Mardiana, 2022).

2.5. Trust
Customers who have a great trust disposition are likely to develop trust and use mobile banking. Trust disposition positively affects the behavioral purpose of using mobile banking. It was indicated that a higher level of trust and improved service quality in mobile banking helped to retain existing and attract potential customers (Tugade, 2021).

2.6. Satisfaction
Customer satisfaction plays a very significant part in the organization's achievement. Customer satisfaction is one of the elements that is used to upsurge the sales and marketing of the company because these customers are faithful and can buy again. Service quality is the talent or skill of the companies to achieve the needed requirements of the customer and upsurge the outlooks of the customers (Abbas, 2018).

Customer satisfaction is also defined as a ruling that a product or facility feature provides an agreeable level of fulfillment, including levels of under or over-fulfillment. Moreover, customer satisfaction is measured to be one of the most significant competitive factors and the best pointer to a company's profitability; in addition, customer satisfaction pushes companies to improve their image, reduce customer turnover, and increase attention to customers' needs (Mandan, Bahran, & Maasomeh, 2003), customers' satisfaction is a degree of how products and services provided by a company meets or surpass customer's expectation (Eze, 2020).

2.7. System Quality

It measures the chosen features of the system. These features include usability, receptiveness, flexibility, and reliability (Yakubu, 2018). The quality of the system is the likely characteristic of a system to provide the information that users can use for decisions. System quality is defined as the measures of the data processing system (Qian, 2019).

Studies found that system quality increases if system helpfulness increases surges. They also found that SQ is a vital indicator of expediency. A recent study found that SQ has a positive effect on satisfaction and utility (Alshahrani, 2022). System quality is a needed feature of an IS and comprises usefulness, system dependability, comfort of knowledge, complexity, flexibility, and response time (Albaom, 2022).

2.8. Information Quality

It is mentioned as the quality of the sequence of possessions uploaded to the system. The quality attributes include timeliness, availability, ease of comprehension, relevance, completeness, and security (Yakubu, 2018). Information quality is an essential factor in defining the presentation of information and the e-learning environment. Information has an important role in reaching learning objectives, and simple issues have occurred as a result of low information quality (Ong, 2021).

In the updated D&M model, there is a relationship between IQ, usage, and user fulfillment on the other (Alshahrani, 2022). Information quality comprises procedures such as information correctness, comprehensiveness, steadiness, accuracy, or significance". In this paper, it was measured in eight (8) scopes, which were accepted from previous papers (Albaom, 2022).

2.9. Service Quality

This is comparable to the easing circumstances created in the united model of acceptance and use of technology, including the provision reduced by the creator of the system or the Back-office unit. The features of SQ comprise information, identification, receptiveness, and efficiency of the software provision unit to support the system (Yakubu, 2018).

According to Qian (2019) defined service quality as the provision of the information system department. They accepted four dimensions of service quality, namely assurance, empathy, responsiveness, and reliability, to measure the success of e-commerce. Service quality can affect both the meaning to use (or use) and user satisfaction of the information system. Service quality refers to the degree of technological staff response and competence (Alshahrani, 2022). Service quality signifies the value of the provision the users obtain from the Information Technology personnel in managing the system, such as funding and assistance (Albaom, 2022).

3. Methodology

3.1 Research Design

The descriptive method of research was used to quantify the problem by generating numerical data from a sample population, which was converted into useable statistics. This study determined the practices that a bank applies daily to its customers as the respondents. As the researcher aimed to use descriptive research, the general objective of this study was to acquire systematic and factual data. The quantitative approach used for analysis was fundamentally built enough to produce evidence of an association between security dimensions and consumer trust while supported by a survey method (McCombes, 2020).

3.2. Data Management

This study assesses important criteria for defining the correlation between trust and satisfaction and the Delone and Mclean Model. To attain these purposes, the quantifiable study design is modified. Survey questionnaires were created based on the earlier available related study. Data from the Banks and other organizations regarding Digital Banking are met. These data are analyzed for software and numerical investigation. The quantitative research design helped the researcher in accomplishing the objectives of this study methodologically and systematically.

This research is further categorized as a correlational study since this research is aiming for revealing the dynamic correlation of those factors and explores its application in different societal aspects. This study constructed a solution to predict the trust and satisfaction effect of the Delone and Mclean model.

3.3. Sampling Designs

3.3.1 Sample Population

This study implements a convenient sampling technique to select possible contributors in this study. The technique was used because very minimal research is needed for data gathering, it is inexpensive, and contributors are available and uncomplicated in the guidelines associated with it, which helps in the data collection procedure. A total of 300 respondents were chosen as a sample (Jahan 2021). The respondents were drawn from the online banking users' population, who were selected based on the following

criteria to ensure that their participation sufficed the information required for this study. The criteria for selection of the sample of the respondents were as follows:

(1) must be a depositor or customer of the bank; and,
(2) must be one (1) year in using Digital Banking.

3.4. Data Gathering Procedure
The answers from survey questionnaires were considered primary data. Those are the most important pieces of information, for they can directly resolve research problems. The answers of the respondents on the given survey questionnaires were used solely for this study. Data management was accomplished, including its treatment and analysis. Web articles, books, and other pieces of literature are part of secondary data that assist the researcher in determining, examining, and justifying variables that are already available when needed. Additional information that provides new input was gathered from various studies and literature from trusted and valid web sources.

3.5. Statistical Treatment
The data that were collected after the survey were classified, tabulated, and analyzed by the researcher using the SPSS. The following statistical handling of data was used to analyze and interpret the data that were collected.

a. Percentage
This was used to examine the status and profile of the respondents. Percentage is the ratio of the frequency of responses to the total number of respondents.

b. Weighted Mean
This tool was used to measure central tendency and determine the average appraisal of present management practices. Where x is the data value, w is the weight attached to the data value, and n is the sample size to interpret the weighted mean based on the respondents' discernment of the dimensions of trust and satisfaction, and the Delone and Mclean Model.

c. Standard Deviation
It is the positive square root of variance. Variance is the mathematics mean of squared deviation from the mean. The variance and standard deviation are based on the deviation from the mean. The variance and the standard deviation are probably the most widely used and reported measure of dispersion.

d. ANOVA (Analysis of Variance)
ANOVA was utilized to determine whether or not there are significant differences in the assessments of more than two groups being compared. To further analyze where the possible differences exist, the post-hoc analysis using the Scheffe Test was done to see where exactly the difference exists.

Where the numerator is the mean sum of squares between groups, and the denominator is the mean of sum squares within groups. To specifically determine the sources of significant difference among groups formed based on the demographic profile of respondents, Tukey's Honestly-Significant Difference post-hoc testing was also performed.

e. Regression
It uses the values from a current data set containing measurements of the values of two variables, X and Y, to develop a model that is valuable for forecasting the value of the dependent variable.

4. Results and Discussion
A total of 300 eligible individuals participated in this study who are bank accountholders and have experience using digital banking. It was stated that the behavior of customers in online banking could be described by their demographic characteristics. Likewise, De Leon (2019) indicated that these personal characteristics show varying perceptions of customers when using online banking. Thus, this study obtained the personal information of the respondents, such as educational attainment, No. of Years with the Bank, No. of Years in using Digital Banking, Monthly Income, and Source of Income to reveal distinctness among themselves.

Almost all of the respondents obtained their college degrees, while few pursued further studies to obtain post-graduate degrees. The educational level influences one's ability to learn through the use of computers and the Internet. Thus, people who use technological devices are mostly educated and more likely to transact banking online. People with advanced education have a connection to technology and online applications and are contented with using easy-to-use technologies, provided that they have better online knowledge and self-effectiveness. Respondents in terms of No. of years with the bank shows that the highest number

of individuals who are account holders are 6 Years and Above. Respondents in terms of No. of Years of using digital banking, show that 2-4 years of using digital banking has the highest frequency. Some of the respondents are still not using digital banking despite being with their Bank. The absence of awareness is the key reason for not using a mobile phone or the Internet for monetary transactions. This is followed by an absence of trust, a weak signal or slow internet connection, and a preference to transact at the bank or ATM. These reasons indicate an engrained philosophy and outlook of preferring various payment procedures other than digital means. Lastly, most of the respondents are in the workforce, while few are either self-employed or receiving their pension. For the monthly income, It can be understood that being employed indicates a steady flow of income. Ergo, employed individuals engage in online banking because regular income earners are more likely to afford the cost of online banking services than sporadic income earners.

This study found that there is no significant difference between demographic Profile and Trust, specifically in the Number of Years with the bank (P value .149), Number of Years using digital Banking (P value .126), Monthly Income (P value .392) Source Income (P value .133) with the confidence level of 95% greater than .05. It can be concluded that collectively, the respondents' perception of Trust is not based on the Number of Years with the bank, Number of Years of using digital Banking, Monthly Income, Source of income, respondents agree on the positive performance of the trust programs implemented by their banks.

In describing the significant difference in the assessment of the employee's satisfaction with their profile, the respondents had a consistent perception of educational attainment, and No. Years with the bank have significant differences. Education had a positive or negative connection with satisfaction. In particular, they found that people with greater education were more likely to have greater resources, which in turn were related to lesser levels of pressure and higher levels of satisfaction. The effect of satisfaction is more vital to the customer who has a long engagement with their bank of choice. Furthermore, other profiles, such as the number of years of using digital banking, monthly income, and source income, show no significant difference in satisfaction. The result supported that demographics have an insignificant impact on the antecedents of initial satisfaction with using mobile banking.

It was found that there is a direct relationship between Trust and Satisfaction with Delone and the Mclean Success Model (System, Information, and Service Quality). Trust is an important factor in cultivating the acceptance and use of online banking. Customer is more likely to follow their wants to manage their mobile banking if the information provided is current, flexible, and complete. Also, echoing what industry experts are encouraging.

It was also suggested that the Delone and Mclean Success Model (System, Information, and Service Quality) must be provided properly for the customer to be satisfied with their mobile banking. It is likely that since mobile banking is a very serviceable matter, it is not an element that can be dismissed. Also, these effects are brought about by the link between quality with trust and customer satisfaction.

Without a doubt, mobile banking is a vital instrument to the customer when it comes to banking in terms of crowd anticipation. Mobile banking has been applied for a wide range of dealings, and it has aided in numerous ways. Finding information from banks, both locally and worldwide, is no longer an issue, as it was in the past.

5. Conclusion

The research mainly focused on the implementation of the Delone and Mclean (Information, System, Service Quality) Model in terms of Trust and Satisfaction. The paper demonstrates that respondents' demographics, such as education, have a vital impact on the acceptance of initial trust. Also, education and No. of Years with the Bank is the only variable that has a significant impact on the antecedents of initial satisfaction.

When the effect of the Delone and Mclean Model on trust and satisfaction is examined, it is detected that all three quality dimensions significantly influence trust and user satisfaction. This finding highlights the importance of constant monitoring and improving the quality associated with these factors. It shows that the technical features of a system are vital for enhancing the trust and satisfaction users feel towards mobile banking.

The results of path modeling validate the direct relationship of Delone and Mclean with trust. This means that when customers experience that the mobile banking service and its application are dependable, easy to interact with, and can propose needed information correctly, promptly, and well-formatted, they are more trusted with that particular mobile banking service. It was also found that there is a direct relationship between Satisfaction and Delone and Mclean; based on these findings, it is possible to conclude that the Delone and Mclean Model plays a crucial part in the process of forming customer satisfaction and that an increase in consumer confidence in their ability to use the online application can lead to a rise in consumer satisfaction. The quality of both information and experiences may help build consumers' trust and satisfaction in any product or brand.

Conflicts of Interest: The authors declare no conflict of interest.

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References

[1]   Abera K. (2021). Influence of attitude on mobile banking acceptance and factors determining the attitude of end-users in Ethiopia

[2]   Adnan A. (2018). An extension of Delone and Mclean with self-efficacy.

[3]   Aisah W. (2022). The Determinant Factors on Satisfaction, Loyalty, and Intention while using Mobile Banking.

[4]   Anagnostopoulos, I. (2018). Fintech and regtech: Impact on regulators and banks.

[5]   Anjar G. (2020) Technology mobile banking on customer Satisfaction.

[6]   Alalwan, A. (2018). Examining factors influencing Jordanian customers' intentions and adoption of Internet banking: Extending UTAUT2 with risk.

[7]   Albashrawi, M. (2020). An integrative framework on mobile banking success. Information Systems Management.

[8]   Astri P. (2021). MIS in the evaluation of BCA Mobile Banking using Delone and McLean model.

[9]   Azmi F. (2020). Study of Delone-Mclean IS Success Model: The relationship between the System Quality and Information Quality

[10]   Baabdullah M. (2019) An integrated model for m-banking adoption in Saudi Arabia.

[11]   Brenda D. (2021). Factors Affecting the adoption of mobile payment in the The Philippines.

[12]   Cao, X. (2018). Understanding mobile payment users' continuance intention: A trust transfer perspective.

[13]   Capistrano P. (2021). Trust, acceptance, and use of online banking services in the Philippines. Bangko Sentral ng Pilipinas.

[14]   Chaouali, W. (2019). The role of cognitive age in explaining mobile banking resistance among elderly people

[15]   Chawla, D. (2019). Consumer attitude and intention to adopt mobile wallet in India.

[16]   Chen, X. (2021). FinTech and commercial banks' performance in China: A leap forward or survival of the fittest.

[17]   Christian T. (2021). Components Affecting Intention to Use Digital Banking among Generation Y and Z_ An Empirical Study from the Philippines.

[18]   Choudrie, J. (2018). Understanding and conceptualizing the adoption, use, and diffusion of mobile banking in older adults: A research agenda and conceptual framework.

[19]   De Leon, M. (2019). Factors Influencing Behavioral Intention to Use Mobile Banking Among Retail Banking Clients.

[20]   Depusoy, J. (2020). E-banking facility services in the Philippines.

[21]   Farizi A. (2020). Evaluation of the Success of the Vehicle Administration System and Online Tax (Sakpole) with Model Delone & Mclean

[22]   Franque, F. (2021). A meta-analysis of the quantitative studies in continuance intention to use an information system.

[23]   Geebren, A. (2021). Examining the role of consumer satisfaction within mobile eco-systems: Evidence from mobile banking services.

[24]   Ghanty J. (2019). The Importance of Online Banking Security. Global Banking & Finance Review.

[25]   Go A. (2018). Determinants of Mobile Money Adoption: Evidence from Urban Philippines.

[26]   Gupta, A. (2018). A Paradigm Shift in Banking: Unfolding Asia's FinTech Adventures.

[27]   Gumba, B. (2019). Socioeconomic Factors Influencing Participation in Mobile Money by Poor Fishing Families of a Municipality in the Philippines.

[28]   Habila N. (2022). Understanding Quality, Satisfaction, and Trust Toward Intention to Use Mobile Banking.

[29]   Hair Jr, J. (2020). Assessing measurement model quality in PLS-SEM using confirmatory composite analysis.

[30]   Hossain A. (2019). Security perception in the adoption of mobile payment and the moderating effect of gender.

[31]   Indarwati T. (2019). Gender Difference Between Payment Point Online Banking Users in East Java.

[32]   Jain A. (2021). Secure Authentication for Banking Using Face Recognition